



## **Monoclonal Antibodies Recognizing Human Platelet Membrane Glycoproteins and Use thereof in Anti-thrombotic Therapy**

This application claims priority to Chinese Patent Application No. 02125227.0, filed on July 17, 2002.

### **BACKGROUND OF THE INVENTION**

#### **Field of the Invention**

The present invention relates to the field of medical immunology and more particularly to monoclonal antibodies that can recognize platelet membrane glycoproteins and hybridomas for producing the monoclonal antibodies. The present invention also provides anti-platelet compositions containing said monoclonal antibodies and uses thereof in anti-thrombotic therapy.

#### **Related Art**

Diseases induced or complicated by thrombus formation seriously threaten human health and are one of the most common reasons for human death. Accordingly, prevention of thrombus formation has become a highlight in modern medical research. Platelets, as a major component of thrombi, play a critical role in thrombosis. In normal blood circulation platelets exist in a resting state, but when the blood vessel is damaged and the subendothelial matrix, such as collagen, is exposed, platelets will adhere to the subendothelial matrix of the damaged vessel via direct binding of membrane glycoproteins thereof to plasma adhesive proteins such as von Willebrand factor (vWF). The platelets that adhere to the matrix or are activated by some agonist produced in the process of blood coagulation and tissue injury will change their form, spread their pseudopodia and further release intracellular granular contents. Concurrently, the platelet membrane glycoprotein (GP) IIb-IIIa complex is activated to form a receptor for adhesive molecules, the binding of fibrinogen to which then promotes adhesion and aggregation of platelets and ultimately leads to the formation of a platelet thrombus at the damaged vessel wall (Plow E.F, Ginsberg M.H. Cellular adhesion: GPIIb/IIIa as a prototypic adhesion receptor. *Progress in Haemostasis and Thrombosis*. 1989; 9: 117-124). Platelet thrombosis plays a key role in the pathogenesis of diseases associated with arterial thrombo-embolism, including coronary